Sept 10th 2008

FANOTEC'S NODAL NINJA

NODAL NINJA 3 USER MANUAL

Spherical Panoramic Tripod Head | NN3 + NN3 MKII

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1 - Introduction

Congratulations on your recent purchase and welcome to the exciting and growing world of panoramic photography. Panoramic photography is one of the fastest growing segments in photography. With developments in hardware and software this technology allows for the creation of seamless stitching of multiple images. From simple two shot panoramic images or complex 100+ shot super mega pixel mosaics, the Nodal Ninja is hardware designed to work in conjunction with your camera and lens to eliminate parallax when shooting adjacent images. Our panoramic tripod head is a quality piece of equipment designed to give you many years of use.

Nodal Ninja is the lightest smallest panoramic tripod head *(aka pano head)* on the market today. A specially designed Spherical Panoramic Tripod Mount allowing the photographer to adjust a camera/lens exactly over its correct rotational axis called the entrance pupil (aka Nodal Point). This helps to eliminate parallax error inherent when shooting multiple images side by side. Without parallax a photographer can seamlessly stitch multiple photographs together forming a larger higher resolution composite image.

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2 - Nodal Ninja Features

We have compiled a list of the features and benefits of Nodal Ninja. When shopping panoramic tripod heads you need as much information as you get. We feel Nodal Ninja offers the best performance with features against price. Here is a summary of the strong points of Nodal Ninja

1. PRICE - Other panoramic heads can cost hundreds of dollars more.
2. FULL rotation UP (supports most wide angle lenses)
3. UNIVERSAL - Fits most DSLR's - see our camera compatibility list on the website
4. Reversible Detent rings (click stops)
   15º/18º (default), 20º/24º, 45º/60º, 72º/0º, 90º/120º, & 45º/60º.
5. SIZE - the *smallest and lightest full spherical* panoramic tripod head on the market today.
6. WEIGHT - Only 475 grams
7. STURDY - made from lightweight aluminum metal, extremely durable for field use.
8. Allows your camera to mounted in landscape mode using Camera Plate (NCP-1) or t-adapters (N3T20/N3T30).
9. Allows the use of many Quick Release Adapters
10. Made to higher precision tolerances than earlier models.
11. Fits all tripod heads – uses both 3/8" & 1/4" thread mount adapter.
12. Adjustable resistance for horizontal panning.
13. Easy to assembly - no tools required (if using NCP1 may need small coin or screwdriver).
14. Leveling - built-in quality bubble level for exact leveling.
15. Finish - attractive "non-glare" matt black.
16. Attractive hard shelled foam lined case available.
17. Large easy to turn knurled edge adjustments knobs (great with gloves in cold weather).
18. Numerical demarcations on horizontal and vertical rotators for easy reference.
19. Rail stops - remember your set points when re-mounting your gear.
20. Closed rail design - assures your expensive camera won't slip off accidentally.
21. Small Rotator Base - less foot print to edit out when doing full spherical panos.
22. Customer support - top notch read our testimonials – *click here*
23. FULL 2 year Warranty - against manufacturer defect.
24. 30 day money back guarantee.
25. Investment – many used units sell for very close to the original selling price.

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3 - Nodal Ninja 3 Parts

Exploded images by Rosauro Ona

NN3 NN3 MKII

Upper Assembly:

1 – Upper Rotator Tightening Knob (part#N3URTK)
2 – ¼ nut
3 - Teflon Washer
4 –Vertical Rail
5- Rubber Compression Washer
5a – Upper Rotator Ring
6 - Camera Mount Knob with plastic washer (part# N3CMK)
7 - Upper Rail with Rotator
7a- Camera Plate (part#NCP1)
7b – Rail Stops - *screw types may vary* (part# N3RS)
7c – Upper Rotator Ring Hex Key
8 - Square Plastic Washer
note: The Camera Mounting Plate (part# NCP1) can be substituted for the square washer.

Lower Assembly:

9 – Rubber O ring and/or Retainer Washer
10 – Vertical Rail Knob (part#N3VRK)
11 – Lower Rotator Friction Lock Screw (part#N3LRLS)
note: NN3 "MKII"does not use this lock screw system
11a – Lower Rotator Tension Knob – (part# N3LR)
12 – Lower Rotator Friction Set Knob
13 – 2 Teflon Washers *note: some units may only have 1 washer*
14 - Lower Rail with Bubble Level
14a – NN3 "MKII" Plastic Retainer Pins
14b- NN3 "MKII" Lower Rotator Brass Screw
15 – NN3 Reversible Brass Detent Ring
note: NN3 uses dedicated detent rings - see store for available rings
15a- NN3 "MKII"Reversible Brass Detent Ring
Available detent rings for NN3 "MKII":
15/0 degree ring - number of stops = 24/0 (part# N3II 15/0)
18/20 degree ring - number of stops = 20/18 (part# N3II 18/20)
25.7/36 degree ring - number of stops = 14/10 (part# N3II 25/36)
45/60 degree ring - number of stops = 8/6 (part# N3II 45/60)
45/60 one side 90/120 reverse side – (part# N3II 4560/90120)
51.4/72 degree ring – number of stops = 7/5 (part# N3II 514/72)
90/120 degree ring – number of stops = 4/3 (part# N3II 90/120)
16 – NN3 Lower Rotator
16a-NN3-"MKII"Lower Rotator Base - (part# N3LR)
17 – 3/8" OD – 1/4" ID Adapter Screw (part#N3-14/38)
17a – NN3 "MKII"ball bearing detent screw (factory set – do not adjust)
18 – NN3 Detent Pin
19 – NN3 Detent Spring
20 – NN3 Detent Tension Hex Nut

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Parts Specifications:

The following specifications of dimension, weight loads, and other design information will help to determine if NN3 is compatible with your camera. We ask you to also review our website for an updated list of cameras that are compatible.
Max loading: approx 4 lbs (1800g) when mounting camera in portrait mode (vertical) on the upper rail. Some heavier cameras and lenses may require extra tightening and is not recommended.
External factors such as winds, unstable surfaces may reduce the stability of any tripod head. We also recommend a quality tripod for better stability. Some inexpensive tripods have "wobble" in the neck and do not maintain good level when rotating the head.

Lower Rail Assembly:
Overall dimensions of lower rail = 150mm x 35mm x 10mm (5 7/8" x 1 5/8" x 3/8").
Adjustment distances from the lower rotator center point to the upper vertical arm mounting point, minimum adjustment distance 25mm (1"), maximum distance 96mm (3 3/4"). Note the N3T30 and N3T30 T-adapter will increase the adjustment maximum distance to 127mm (5"). This would be the maximum distance from camera mount to nodal point (entrance pupil) of a particular lens.
The lower horizontal rail is used to slide the upper vertical assembly (when attached) into 1 of 2 needed no parallax points (NPP) depending on the camera and lens being used. The rail has a laser engraved scale marked in millimeters (1 mm intervals) denoting distance from the center of rotation. The grooves of the scale are filled with water resistant paint to increase clarity.
The lower rail assembly incorporates the "lower rotator assembly". A 1/4 inch non-threaded hole in the lower rail accommodates the lower rotator base assembly. The lower rotator assembly allows for 360 degree horizontal rotation. It is always suggested you rotate and shoot images in a clockwise manner. The rotator base is engraved with demarcations in 5 degree intervals, with longer tic marks at 15 degree intervals. Numerical values from 0 – 360 degrees are engraved in 30 degree intervals.

With NN3 you may need to tighten the rotator base to adjust the desired rotating tension. To set the tension loosen the inner screw *(shown on right)* using a coin or standard screwdriver, then hand tighten the knurled knob (with Nodal Ninja markings) to desired tension, then tighten inner screw to lock the tension.

NN3 "MKII"does not require this adjustment.

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The bubble level is used to level the Nodal Ninja by centering the bubble in the center ring. The bubble level is extremely sensitive - maybe too much so. It's difficult to obtain a true and exacting level so some drift is likely. As long as the drift isn't excessive and stays within the center target ring simply finding a happy medium with the potential drift is all that is necessary. We discourage the use of multiple levels as getting each to match to the other is becomes very difficult.

NOTE: If you are using multiple levels in your setup (i.e. tripod level, Quick Release Plate level etc.) always rely on the Nodal Ninja level as the final level to sight and use.

Upper Rail Assembly:
Overall dimensions of upper rail = 146mm x 35mm x 10mm (5 3/8” x 1 5/8” x 3/8”).

Adjustment distances from the upper rotator center point to the upper rail camera mounting point, minimum adjustment distance 37mm (1 1/2"), maximum distance 117mm (4 1/2"). Note the N3T30 and N3T20 T-adapter will increase the adjustment maximum distance to 143mm (5 5/8”). This would be the maximum distance from camera mount to the NPP of a particular lens. Also when using the N3T30 or N3T20 T-adapters and if adjusted to the full out position the upper rail assembly will not rotate to the full 90 degree position up also known as the zenith.

The upper horizontal rail is used to slide the camera (when attached) into 2 of 2 needed NPP’s depending on the camera and lens being used. The rail has a laser engraved scale marked in millimeters (1 mm intervals). The grooves of the scale are filled with water resistant paint to increase clarity.

The upper rail assembly incorporates the “upper rotator assembly”. The upper rotator assembly allows for 180 degree vertical rotation. The rotator is engraved with demarcations in 5 degree intervals, with longer tic marks at 15 degree intervals. Numerical values from 0 – 90 and 90 - 0 degrees on one side and -0 - -90 and -90 - -0 degrees on the other half which are engraved in 30 degree intervals. These are handy marks when tilting the camera to do mulitrow panoramas and full spherical panoramas

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Hard Shelled Cases for Nodal Ninja 3
We have available very attractive hard shelled cases
(item# N3HC).

These cases are padded with a foam lining.

Dual zippered for added opening convenience.

Nodal Ninja 3 packed in the hard shelled case with suggested layout of parts.

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Nodal Ninja 3 MKII Package

The package generally comes with all of the above to include NN3 MKII, camera plate, all available detent rings, rail stops, hard case, quick reference guide and a little baggie with extra misc parts. It is important to note that package contents may vary. Resellers in various countries may also have different parts included with their package offers. Please check at time of purchase what is included with your package. At time of this publication the above package on the website is selling for US$229.95.

NN3 stand alone is also available at a reduced price (US$199.95 on website) and comes with NN3, standard 15/18 reversible detent ring, rail stops, quick reference guide and a little baggie with extra misc parts.

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4 - Basic Assembly

Nodal Ninja 3 comes preassembled with two basic assemblies
1) Lower Rail Assembly – consisting off of lower horizontal rail and lower horizontal rotator.
2) Upper Rail Assemby – consisting of vertical arm, upper rail, and upper rotator.

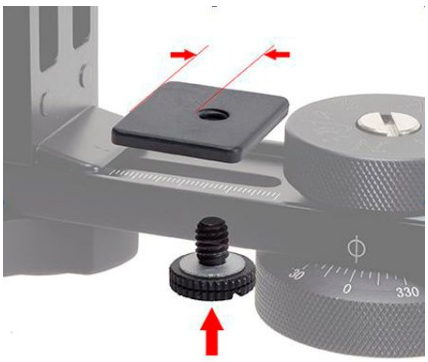
Place vertical arm assembly (2) on lower rail assembly and
Secure with the vertical rail friction set knob (1).
Make sure the vertical assembly is positioned so the upper rail is facing so it's on the inside. You will see the vertical rail also has two feet at the base – the longer is to point inwards towards lower rotator.

Settings things up

There are only two adjustments needed – lower and upper unless you have an offset tripod mount and using the t-adapter.

Setting the lower rail.

With the camera/lens mounted rotate the "upper" rail so it is perpendicular to the ground. Point the camera directly down making sure the barrel of the lens is in line with the upper rail.
Loosen the lower vertical rail knob (shown in image as adjustment knob) slide the vertical and upper assembly back and forth on the lower rail unit the camera/lens is positioned directly over the lower rotator knob (with marking). You can look through the camera viewfinder to help center. Once centered you have your first of two settings.



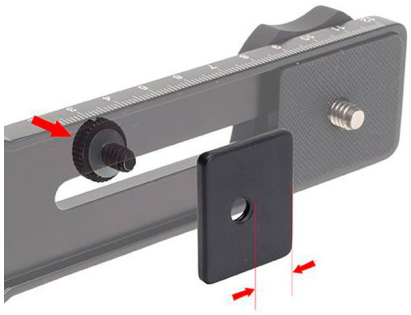
Insert a rail stop as shown and tighten to lock and remember this position.
The lower position is now set and will not chang regardless of lens or focal length.

Setting the upper rail.

Loosen the upper rotator knob and rotate the upper rail with

camera/lens still attached so it points straight out (parallel with the ground) as shown to the right. This position is known as 0 degrees. Next loosen the camera mounting knob and slide the camera on the upper rail until the NNP of the lens is centered with the upper rotator. In the example we show the Nikon D70 with 10.5mm lens. The NPP point on this lens is very near the gold ring. So we slide the camera/lens on the rail so the ring is centered with the upper rotator, which is also in line with the center of the vertical rail.

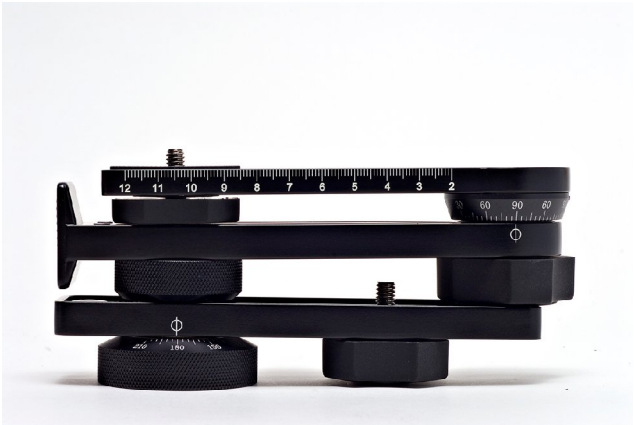
Insert a rail stop as shown and tighten to lock and remember this position.The upper position is now set unless you change camera and or lenses or vary the focal length it will remain as is.



Using the rail stops after you learn your settings will allow you to remember the same position when re-mounting your camera.

Mounting using the Camera Mounting Plate (NCP1).
When mounting the camera plate make sure it is perpendicular to the camera body to assure a snug fit. Do NOT twist he camera plate, secure using the 1/4 screw with coin or screwdriver. Not using the screw might damage the rubber skid plate on your camera base. This would also apply to using the t-adapter as well.

Completed assembly of NN3 with rail stops and camera mounting plate.
This setup allows you mount your camera and lens in portrait mode (sideways) onto the upper rail on Nodal Ninja.



Nodal Ninja 3 folds up nicely. Folded only 7”x2”x2” (178mm x 50mm x 50mm)

5 - Removing and Replacing Detents

Available detent rings:
15/0 degree ring - number of stops = 24/0
note: on the 0 side there are no detents.
18/20 degree ring - number of stops = 20/18
25.7/36 degree ring - number of stops = 14/10
45/60 degree ring - number of stops = 8/6

Changing rings (pre Feb 2008 Nodal Ninja's**):**
To change rings disassemble the lower rail assembly by unscrewing the lower rotator friction set knob (1) *note: the 12 degree detent ring shown in above sample has been discontinued.* Place the detent ring with desired side face up and reassemble. With NN3 you may need to tighten the rotator base to adjust the desired rotating tension. To set the tension loosen the inner screw *(shown above)* using a coin or standard screwdriver, then hand tighten the knurled knob (with Nodal Ninja markings) to desired tension, then tighten inner screw to lock the tension.
Newer NN3's no longer use the inner rotator washer.

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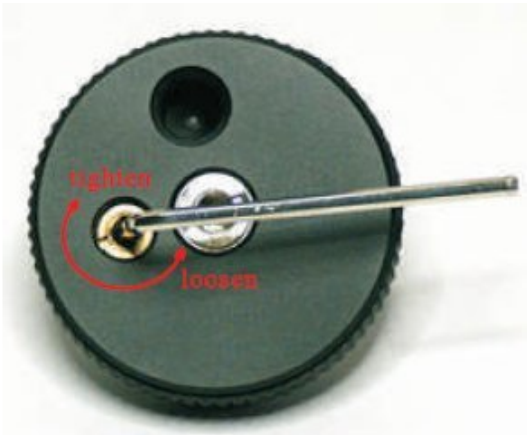
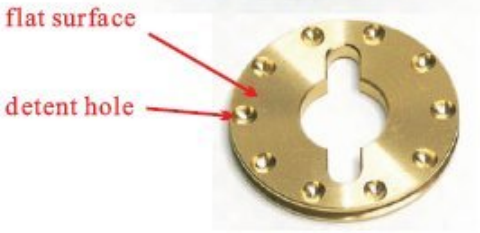


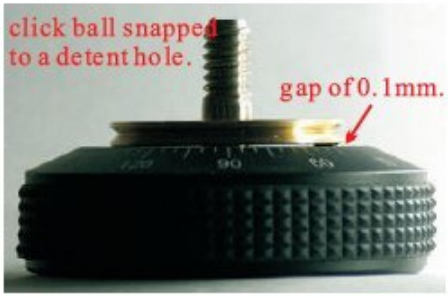
NN3 MKII Detent Plunger Adjustment

It is important to note the detent plunger on the NN3 MKII lower rotator is pre-set at the factory with the plunger being optimized and fixed. If the precision of the detent system is reduced over time minor adjustment may be necessary so please follow these instructions carefully.

Only the height of the plunger can be adjusted. This height has a large effect on the precision of the detent system. Incorrect adjustment can cause damage to the brass detent rings.

Adjust the height of the plunger by tightening or loosening the plunger screw on the underside of the rotator. Use either a screw driver or included hex key.





Loosen the plunger so that the click ball is flush with top rotator surface. Use the flat surface and a hole of the detent ring to adjust the appropriate height of the detent plunger. Gradually tighten the plunger using the hex screw. Snap the click ball to a detent hole. Adjust the height of the plunger so that the detent ring is raised approximately .1mm (about the same as 2 sheets of plain paper).

Align the click ball to the flat portion of the detent ring surface. Compress the detent ring so that no gap between the detent ring and rotator base exists (as shown). If a gap exists, loosen the plunger slowly (while compressing the detent ring) until the gap just disappears. Further loosening will reduce the precision of the detent system. You could replace the detent ring with any flat surface in this step.

We emphasize there must be **no gap** when the click ball is compressed using the ring as shown or the detent ring will be damaged.

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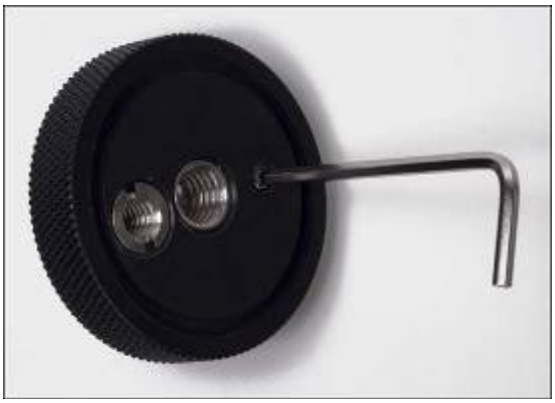
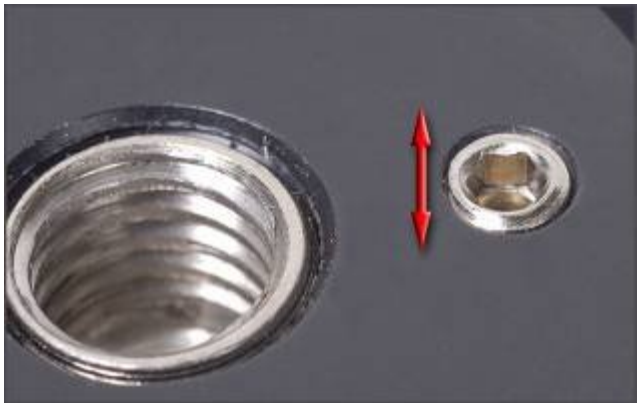
6 - Removing and Replacing Detent Springs on NN3 only





The click stop tension can be tightened to the desired strength giving you good precision. Use the hex key included with your Nodal Ninja to loosen the hex screw on the underside of the lower rotator. Replace spring and retighten. This hex screw tightens a little internal spring causing more tension to the pin that drops into the detent plate. Do this in concert with properly adjusting the tension on the rotator base as well. Both these adjustments together allow for greater customization.
Screw the detent tension hex nut just below the rim to leave enough spring movement.

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7 - Mounting camera in landscape mode

N3T30 t-adapter

The N3T30 or N3T20 T-adapter will increase the adjustment maximum distance to 127mm (5”). This would be the maximum distance from camera mount to nodal point (entrance pupil) of a particular lens. It is important to note that when mounting the T-adapter (or Camera Mounting Plate shown above (NCP1) NOT to twist the t-adapter to tighten. Tighten using using coin or screwdriver. Twisting the t-adapter or N-CP1 onto to base of a camera may cause damage to the camera base.

The T-adapter may also be substituted for the newer Camera Mounting Plate (NCP1) although the CP does not add additional length to the rail its primary purpose is to give a better gripping surface to mount your camera.

Using Quick Release Adapters:
The use the Camera Plate (CP) or T-adapter allows for the use of many 3rd party quick release systems

T-adapter with 3rd party quick release plate. The camera mounting plate may also be used. When using a 3rd party quick release plate select one that is approximately 20mm or less in thickness. This will not work with every camera setup but will with many.

COMING SOON:
Fanotec's Arca Style Swiss Quick Release Clamp
– due out late 2008

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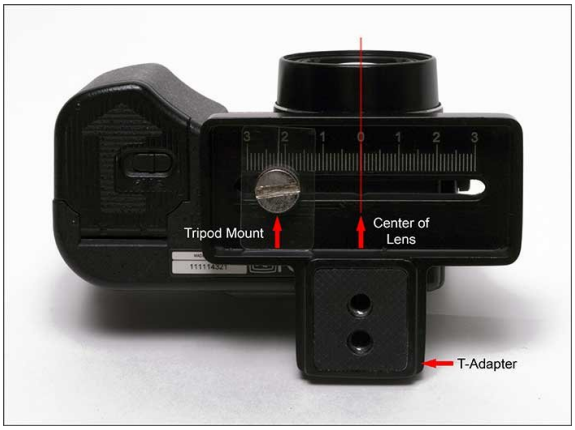
8 – Cameras with off-axis tripod mounts and T-adapters

If your camera has a tripod mount that is offset from the center of the barrel of the lens you will need the N3T30 or N3T30 offset t-adapter. First determine if the t-adapter will be needed. Look at the base of your camera and note the position of the ¼" female tripod mount. If this tripod mount is off center from the center portion of the lens you'll need to use the small camera bracket. If it is 20mm or less you can use the N3T20. If the offset is greater than 20mm and less than 30mm you can use the expanded N3T30 t-adapter. Using the t-adapter allows your camera to be positioned on the Nodal Ninja is such a way as to achieve proper rotation about a camera lens NPP.



If you do not know if you camera has an offset tripod mount we have a list of what cameras may need the t-adapter.

9 – About Parallax

Parallax defined:
Parallax is the apparent shifting of a foreground object relative to a background object when viewed at different angles or perspectives. With panoramic photography, multi-shot images or images shot side by side create an issues know as parallax. This is because each image shot is actually different from the one before it due to the minor shifting of objects in the field of view. The foreground objects will tend to shift from the back ground objects if the camera is rotated outside the no parallax point (NPP) of the lens. Seamless stitching of adjacently shot photos is almost impossible with tell tale lines whenever parallax is prevalent. Things simply won't line up properly.

Parallax Demonstrated:
Hold your thumb out in front of you at arm's length and view it with your right eye (left eye closed). Move your head side to side while remaining focused on the background and you'll see your thumb move side to side relative to the background – this apparent change in position is due to the effects of parallax. This is the same thing that happens when a camera is rotated on a tripod. Tripods are NOT designed to eliminate parallax with panoramic photography.

Using a special head like the Nodal Ninja and adjusting it properly so it rotates about the "entrance pupil" of a lens will eliminate virtually any parallax.

Parallax and Panoramic Photography:
Once parallax free images are taken, and with the use of special "stitching software", you are able to seamlessly stitch the images together.

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10 – Finding the Entrance Pupil of a Lens

What is the Nodal Point or Entrance Pupil and why is it important?

We would like to take moment and dispel misconceptions of the word “Nodal Point”. When referring to this no parallax point (NPP) many still refer to it as the Nodal Point. Technically the point at which you would rotate the camera/lens to avoid parallax is called the “entrance pupil”. The entrance pupil is a floating point located inside the lens at the point where the light refracts or reverses itself before continuing to the image sensor or film plane. The entrance pupil is different on each lens and changes at different focal lengths.

The entrance pupil (incorrectly referred to by some as nodal point) of a lens is the virtual image of the aperture formed by the lens elements in front of it, and is the place where light paths cross before being focused onto the CMOS, CCD or film plane. For a light ray to pass through the lens, it must be directed towards the entrance pupil, which is therefore the center of perspective. Note that the entrance pupil can be outside of the lens and even behind the film plane! When taking adjacent images you want to rotate the camera around a line that runs through (or very close to) the entrance pupil. By finding the entrance pupil of the lens, and rotating the camera about this point, you will assure parallax free images. Parallax is more obvious in the viewfinder with objects close to the camera. The more distant the objects the lesser the parallax. If using a lens with zoom capability the entrance pupil will change in position as the zoom changes. Because of so many variables, it is best to learn how to find the entrance pupil manually. But if you want to see if we have your settings please look on our website.

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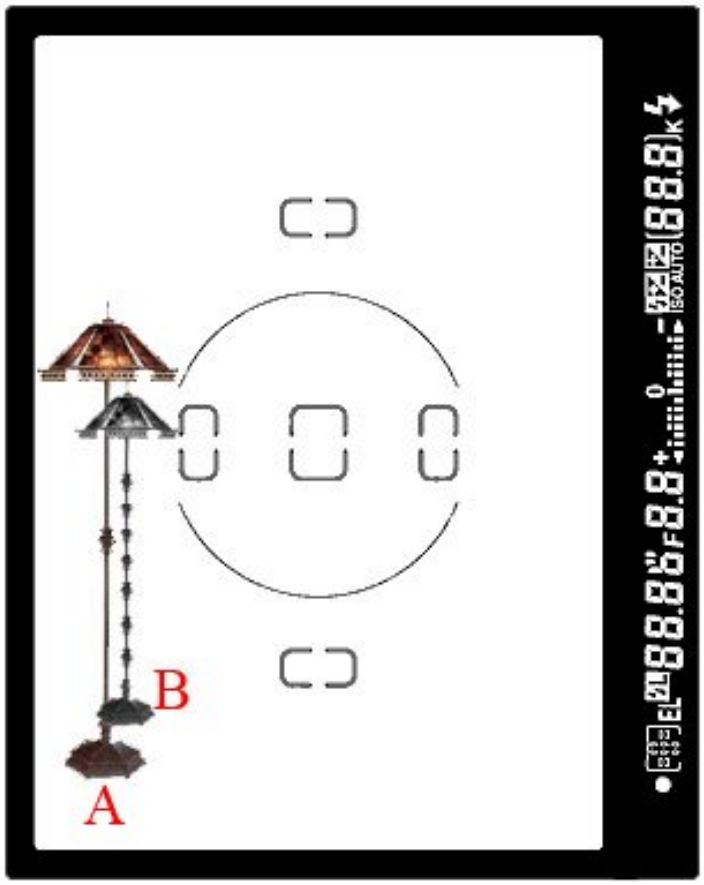
To locate the NNP of a lens have the camera/lens setup on NN3 as shown to the right. You want the camera as" far back" on the upper rail as possible while the lens is pointing towards the horizon and parallel with the ground.



Position in front of the camera two objects – one nearer than the other. For example indoors you could use two lamps, one at about 6 feet with the other at about 10 feet, or if outside try using two fence posts or light poles. Any two objects creating a vertical line will work as long as one is positioned behind the other. In this example we'll use two floor lamps.

With the camera mounted in portrait mode (sideways on the upper rail) and looking inside the viewfinder, or at the LCD screen, position the camera so the two objects are towards the left side of the frame as shown. Note the exact position of the two lamps. Ideally place the lamps so they aren't directly behind each other causing a slight offset.

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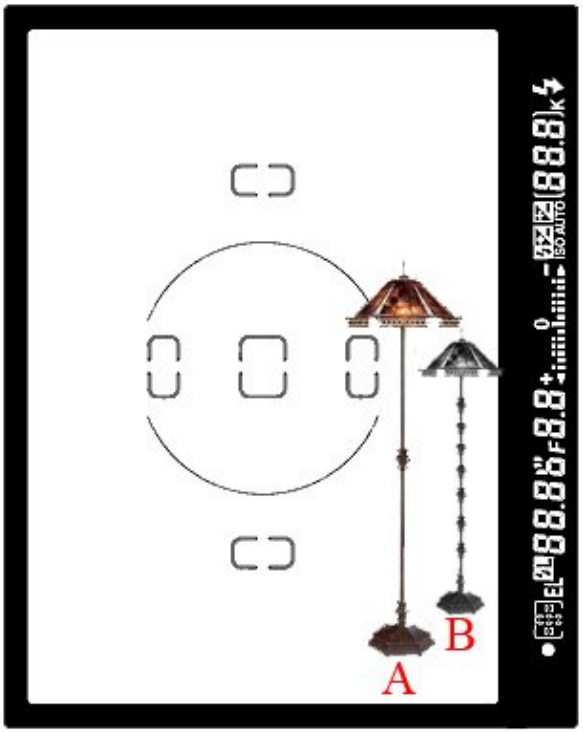
Now rotate the camera so the two lamps are now in the right side of the viewfinder frame. Go back and forth a few times and watch to see the apparent distance between the two lamps changes. If the apparent distance changes, like our example, even slightly then you have parallax.

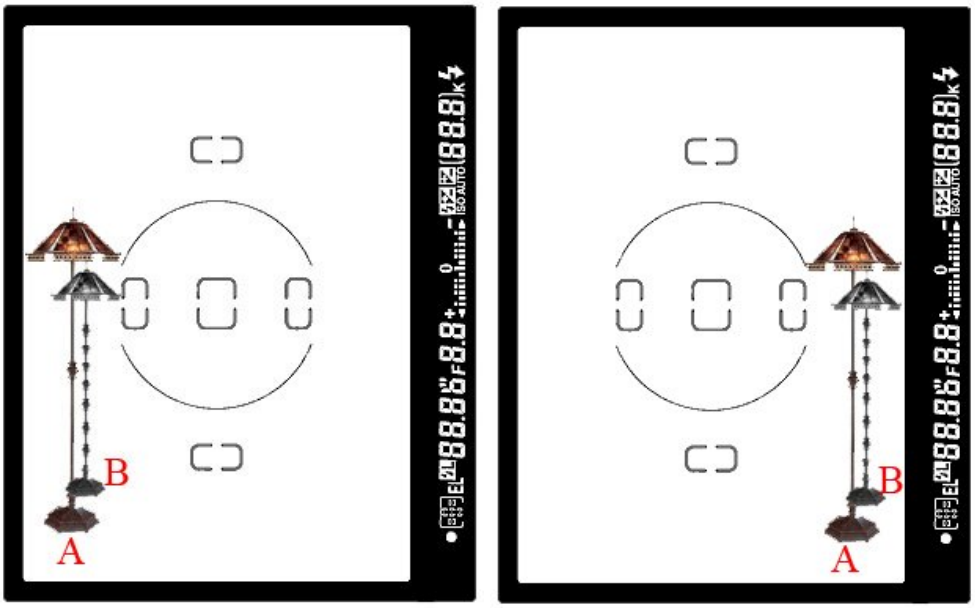
You'll now need to loosen the camera mounting knob enough to allow you to move the camera slightly forward on the upper rail – about 2mm. The marks on the rail systems are in mm's so just move to tick marks forward. Repeat above steps. Keep doing this until you reach the point where you notice no movement between the lamps.



if

in

The objective is to move be able to rotate the camera left to right without seeing any apparent movement of the lamps as shown below.



Note the position on both upper and lower rails and use the rail stops to set the position. If you change cameras or lenses you'll need to repeat the above steps. Now you're ready to start shooting panoramas.

11 – Frequently Asked Questions

The following is a partial list of the most commonly asked questions – for more FAQ's visit our website.

1) **Q. Do I need a level on the camera's shoe?**
A. No you don't. You really only need one level – the one with NN3. Using multiple levels can be very complex and difficult.

2) **Q. How do I know if my lens will work on NN3?**
A. It's best to simply measure it. You will get full tilt up on wide angle zoom lenses that measure 105mm (4 1/8 inches) or less from the "entrance pupil" at the focal length used to the camera mounting threads. With the use of the N3T20 T-Adapter you will get an "additional" 40mm (1 ½ inches) of length however this may limit the ability to get a full 90 degree rotation up. These measurements are taken off the upper rail of NN3. Also some larger fisheye lenses like the FC-E9 will not fit.

3) **Q. What are the settings for the D70 with 10.5mm Nikkor Lens?**
A. 55mm on the lower rail and 80mm (camera mount) on the upper rail.
(http://nodalninja.com/nn3_d70_10_5.html)

4) **Q. Is it okay to apply a bit of grease to the detent plates on NN3 for smoother rotation?**
Hmm, don't use grease UNLESS you DON'T want to change the detent plates, the grease could get everywhere! If you do use grease ONLY use a very minimal amount. The detents will run smoother upon use. We enclose extra detent plunger pins with every NN3 should these pins eventually wear in time. Replacement of the detent plunger pin is very easy. Locate the hex screw under the horizontal turntable, use the enclosed hexagon key to unscrew it and replace the plunger. Be careful not to lose the detent plunger spring when replacing the pin.

5) **Q. Are the click stops positive and repeatable with good precision and can I adjust the tension?**
A. The click stop tension can be tightened to the desired strength giving you good precision. Simply use the tightening screw on the underside of the lower rotator. This screw tightens a little internal spring causing more tension to the ball that drops into the detent plate. Do this in concert with properly adjusting the tension on the rotator base (see FAQ #6) as well. Both these adjustments together allow for greater customization.

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6) **Q. regarding NN3 - I noticed loose tension and a slight wobble at the rotator base in my Nodal Ninja, is this normal?**
A. No - this is not normal. Occasionally a your Nodal Ninja 3 will need proper tightening. Once properly tightened the unit should be both secure and should not unscrew if turned counterclockwise (we recommend always turning it clockwise).
Here is the proper procedure (does not apply to NN3 “MKII”:

a) Loosen the knob with "Nodal Ninja" marking. Then loosen the silver lock screw on the knob. Once the knob is loosened, the silver lock screw is easy to loosen. You can loosen the screw with your finger, no tool needed.

b) Tighten knob until you achieve the desired rotation tension or friction. You can note the amount of friction by holding the base rotator and turning the lower arm around in a "clockwise manner", as this prevents unscrewing of the base unit until locked. It doesn't take much tightening at all.

c) Tighten the silver lock screw with your finger. Then "lock" the tension by securely tightening the knob. Double check the tension against the click stop feel and readjust as needed.

d) You may need to also adjust the spring tension of the detent pin. The adjustment is located on the underside of the lower base rotator. We’ve enclosed a hex key with each NN3. If the unit still has a tendency to unscrew try placing an extra Teflon washer (included with each Nodal Ninja) under the rotator knob (with Nodal Ninja markings) and repeat the above steps. Proper tightening should enable you to find a friction point that you feel comfortable with. This is actually a customizable option.

Q. Is there a scale (of degrees) that allows you to know how much you're tilting up/down? I see a scale but does that translate into degrees?
A. Yes there are demarcations (little lines) in 5 degree increments.

Q. How stable is this unit in the wind (assuming a good rigid tripod)?
A. Just as stable as any other rig. Nodal Ninja being made of metal assures a sturdy configuration. A good sturdy tripod is essential in windy environments. Some tripods have hooks under the neck to allow you to attach backpacks or other items of weight to add to the stability.

Q. I'm not 100% clear on how many of the white Teflon washers should be used.
A. Just keep all Teflon washers where they were originally placed. The Knurled knob that secures the vertical arm to the lower rail uses two Teflon washers. Please refer to the above parts image above for proper location on other washers.

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12 - Warranty

Nodal Ninja is a quality instrument. Under normal usage it will last many years. We feel so confident our product will stand the stand of time we issue a 2 year warranty from the date of your purchase – one of the best in the industry. In the unlikely event a part wears or breaks simply contact us for a replacement part. We will replace any part that is deemed to be defective at no cost to the consumer other the cost of postage to send it in. Customer abuse or misuse (to be determined by manufacturer and/or distributor) will void any implied warranty. This warranty is issued to the original buyer only is non-transferable.

The manufacturer (Fanotec) and/or distributors also assumes no liability for damage caused to equipment, or downtime time caused as a consequence of not being able to use our product, or injury caused to persons using Nodal Ninja. Please keep out of reach of children. As with any piece of equipment, use it appropriately. We do not want to get into a lot of expensive legalize, but we would like the buyer to understand and accept at time of purchase ALL responsibilities that arise out of the use of our products either directly or in directly.

Returns:
We realize Nodal Ninja might not work for everyone. If you find for any reason you are not happy with your purchase please contact us immediately for return instructions.
We will accept items returned if “received back” NO LATER than 30 days for NN3. We will refund the original amount paid less shipping and handling. Returns must include “all” materials as shipped, no scratches or obvious marks. Items received as stated above will be refunded item cost (less shipping and handling). Items missing from shipment will be deducted from the refund at full retail price at time of receipt. Items received back in condition noted above “after” 30 days of buyer receipt but no later than 60 days will be offered 75% refund off purchase price (less shipping and handling paid).
Please allow up to “7 days” to process and issue your refund. For international orders we are not responsible for exchange rate differences from the time you buy to the time money is actually refunded.
Our return policy only applies to purchases made through this website and may differ from those of our other online store fronts and/or authorized resellers.
eBay’r Note: Nodal Ninja’s sold on eBay from individuals are NOT covered by any warranty nor we can offer any support - buy at your own risk. Also please report any illegal use of images and text that may have been copied from our website.
If you wish to return your order please contact us for instructions.
Polices do change with time so please reference our current return policy on the website.

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14 - Contributors

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Note some translations may not reflect recent revisions to this manual.

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